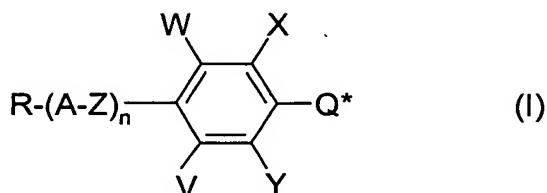


Patent Claims

1. Chiral dopant having a laterally alkylated phenyl unit of the general formula I:



in which:

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|----------|--|
| Q* | is a unit having an asymmetric carbon atom, |
| R | is -H, an alkyl or alkenyl radical having from 1 to 12 carbon atoms which is unsubstituted or at least monosubstituted by halogen, and in which one or more non-adjacent -CH ₂ - groups may be replaced by -O- or -S- and/or -C≡C-, as well as F or Cl, |
| A, | independently of one another, are a single bond, 1,4-phenylene, in which, in addition, one or more H atoms may be replaced by F, 1,4-cyclohexylene, in which, in addition, one or two CH ₂ groups may be replaced by -O-, or 1,4-bicyclo[2.2.2]octanyl, |
| Z, | independently of one another, are a single bond, -CH ₂ -CH ₂ -, -O-CH ₂ -, -CH ₂ -O-, -CF ₂ -O-, -O-CF ₂ -, -CF ₂ -CF ₂ - or -C≡C-, |
| V and W, | independently of one another, are linear or branched alkyl or alkoxy having from 1 to 12 carbon atoms which is unsubstituted or monosubstituted or polysubstituted by halogen, or H, F or Cl, |
| X and Y, | independently of one another, are linear or branched alkyl or alkoxy having o or p carbon atoms which is unsubstituted or |

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monosubstituted or polysubstituted by halogen, where o and p, independently of one another, are identical or different and are integers in the range from 1 to 12, H, F or Cl, where in the case of H, F and Cl, o or p = 0, or trimethylsilyl, and

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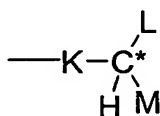
n is from 1 to 3,

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with the proviso that X and/or Y is/are either an unsubstituted or halogen-substituted alkyl or alkoxy radical having o or p carbon atoms, where the sum o + p is ≥ 2 , or a trimethylsilyl radical.

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2. Chiral dopant according to Claim 1, characterised in that unit Q* having an asymmetric carbon atom has the following structure



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in which

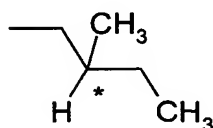
K is -CH₂-, -O-, -CH₂CH₂-, -OCH₂-, -CH₂O-, -OCF₂-, -CF₂O-, -C≡C-, -CH=CH- or a single bond, and

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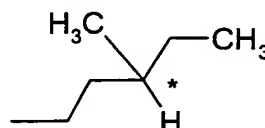
L and M are alkyl, cycloalkyl, O-alkyl, alkenyl, alkynyl or aryl, where L must be different from M.

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3. Chiral dopant according to Claim 1 or 2, characterised in that unit Q* having an asymmetric carbon atom has one of the following structures:



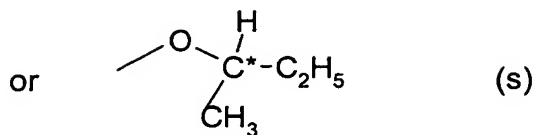
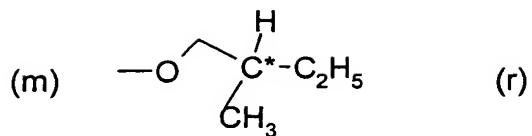
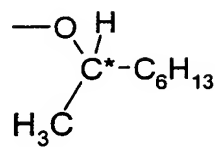
(h)



(i)

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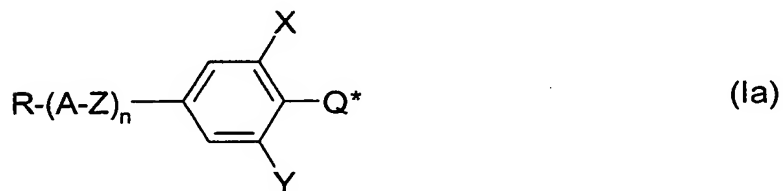
- 51 -



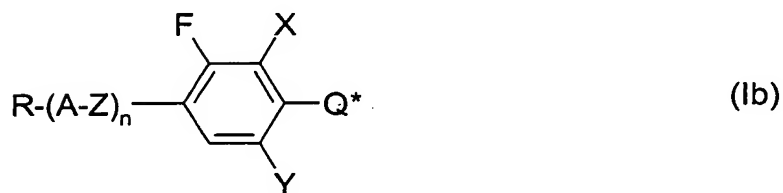
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4. Chiral dopant according to at least one of the preceding claims, characterised in that it has one of the following basic structures:

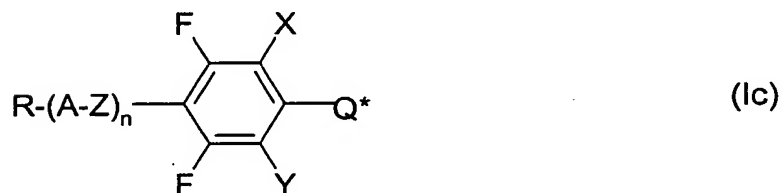
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5. Use of at least one chiral dopant according to at least one of the preceding claims in liquid-crystalline mixtures.

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6. Liquid-crystalline mixture comprising at least one chiral dopant according to at least one of Claims 1 to 4.

7. Electro-optical display element containing a liquid-crystalline mixture according to Claim 6.

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